



THE
WILDERNESS
SOCIETY

CLIMATE CHANGE FACTS

Are Wildland Fires Making Climate Change Worse?

Are wildland fires making climate change worse? The simple answer to this question is no. Wildland fires are natural events that represent a release of carbon that was stored in forests and that will be recaptured as forests regenerate.

Climate Change is Causing an Increase in Wildland Fires

Research shows that climate change likely has increased the length of the fire season. For example, the fire season in the western United States has increased by 78 days over the past 30 years. As a result, the number and size (but not necessarily the severity) of fires that burn in any given year has increased. In addition, increased drought and water shortages, and shorter winters and rainy seasons brought on by a changing climate, will lead to a drier landscape that is more susceptible to wildland fires.

Wildland Fires are Not Causing Climate Change

Wildland fires *do* release greenhouse gases—but this does not necessarily mean that wildland fires are bad because they burn trees and release carbon. Fire simply changes the location and the state of that carbon; it does not change the amount of carbon in cycle at any given time. Wildland fires are critical components of forests. For millennia, forest fires and decay have released carbon into the atmosphere. Existing and new generations of forests then recapture that carbon from the atmosphere. Burning fossil fuels, on the other hand, adds new carbon that was permanently stored deep below the ground to the carbon cycle.

Because of climate change, it is possible that the increase in the number and size of wildland fires will release more carbon into the atmosphere than historically has been the case. A significant change in climate has the potential to change the composition of plant communities that regenerate after fire, thereby changing the way that carbon is stored in the regenerating ecosystem. For example, if a forest shifts to grassland, less carbon will be stored above ground (due to lack of trees), while much more carbon will be stored in soils.

Conclusions

In general, wildland fires do not contribute to climate change, even though they release carbon and other greenhouse gases. While fires create a short-term increase in carbon emissions, these emissions are recaptured by forests as they regenerate. In addition, forest wildland fires are critical natural processes that are important to keeping forests functioning and healthy.

On the other hand, burning fossil fuels adds new carbon to the atmosphere and has a clear warming effect. Also, unlike wildland fires, the level of fossil fuel emissions can be controlled. Responsible control over fossil fuel consumption and emissions would have positive impacts on climate change, and can be achieved through conservation, improved efficiency, and employment of renewable energy resources.